Pest Alert

United States
Department of
Agriculture

Forest Service

Northeastern Area

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Forest Tent Caterpillar

The **forest tent caterpillar** (*Malacosoma disstria* Hübner) is a native insect found throughout the range of hardwood forests in North America. It is more abundantly distributed in eastern North America, but is also common in western areas that have large stands of aspen. At times, this insect can be a damaging defoliator of trees. Trees that are defoliated often flush a new, smaller set of leaves in July. While forest tent caterpillar does not typically cause mortality to host trees, mortality can occur when populations interact with other disturbances, such as drought or insect outbreaks. Forest tent caterpillar larvae use silk to form trails and to create pads on host trees where they congregate and rest. However, they do not construct and reside within elaborate silken tents. A different species, the eastern tent caterpillar, forms these more defined tents in branch crotches of cherry and other trees in the rose family.

Hosts

Because forest tent caterpillar is found throughout much of North America, it is no surprise that it has a large host range. Depending on the geographic region, ash, aspens, basswood, birch, cherry, cottonwood, elms, oaks, red alder, sugar maple, swamp blackgum, sweetgun, water tupelo, and willow are all potential hosts. Forest tent caterpillar does not feed on red maple, sycamore, or conifers.

Description

Eggs are laid in dark masses (25–37 mm wide) that surround small twigs (figure 1). These masses may contain up to 350 eggs. Newly hatched larvae are 3 mm in length, black, and have noticeable hairs. As larvae grow and become a more brownish color, two distinct characteristics develop. Pale bluish lines form along the margins of the larvae, and white spots (often described as footprints or keyholes) develop along the back (figure 2). Full-grown larvae are about 50 mm in length. Pupae are protected by a cocoon spun from pale yellow silk and are often found in protected areas (figure 3). Adult moths are light brown with two narrow dark bands on the forewings and have a wingspan between 25 and 28 mm (figure 4).

Figure 1. Forest tent caterpillar egg masses

Figure 2. Forest tent caterpillar larvae

Figure 3. Forest tent caterpillar pupa in cocoon

Figure 4. Forest tent caterpillar adult moth

Life History

Forest tent caterpillar populations usually cycle, remaining high for 3 to 4 years before dropping to low levels due to harsh weather, predation, disease, and/or starvation. Eggs hatch in the spring and larvae begin feeding on the newly expanded foliage of host trees. During this time, larvae can be seen following one another in straight lines and congregating. Larvae feed into June and then pupate in silken cocoons in protected areas or folded leaves. Adults emerge in July, locate hosts, mate, and lay eggs. Egg masses are deposited around small twigs of host trees and are often concentrated on trees near well-lit urban areas. The adult moths are nocturnal and are strongly attracted to light.

Management Options

Several options are available for managing forest tent caterpillar. Because trees usually survive defoliation, the first option to consider is doing nothing to manage the population. Environmental conditions as well as natural predators help regulate forest tent caterpillar populations after only a few years. If control is necessary, mechanical and insecticidal options exist. Mechanical options include placing barriers on trees, removing egg masses before they hatch, and removing larvae when they are congregated. Insecticides such as *Bacillus thuringiensis* (*B.t.*) can be used to protect weakened trees or to cover large areas where populations have remained high for consecutive years. Management decisions can be guided by egg mass surveys. For example, an average of 20 or more egg masses over 15 cm in diameter per tree indicates the likelihood of complete defoliation and may necessitate a management response.

Pesticide Precautionary Statement

Pesticides used improperly can be injurious to humans, animals, and plants. Follow the directions and heed all precautions on the labels.

Note: Some States have restrictions on the use of certain pesticides. Check your State and local regulations. Also, because registrations of pesticides are under constant review by the Federal Environmental Protection Agency, consult your county agricultural agent or State extension specialist to be sure the intended use is still registered.

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